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Suppliers' Information Note

For The BT Network

BT Featurenet Embark

Service Description

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1. Introduction

This Suppliers Information Note gives information about the BT Featurenet Embark service.

1.1 Product Overview

Featurenet Embark enables customers with both large and very small sites to link together into a corporate telephone network, giving the benefit of a private network. This service is available on a national basis.

The product delivers an integrated Virtual Private Network (VPN) and Centrex service.

NOTE: This product is designed for Normal Voice Telephony use and not for Non-Voice applications (eg Telemetry), which can generate high calling rates, or Voice applications, which can generate near instantaneous high calling rates concentrated to or from particular location(s).

At the time of writing it has come to light that a number of customers have been connected to Embark using telemetry type applications – this has caused Embark On-Net traffic management problems.

For higher volume applications Off-Net (i.e. PSTN) should be used.

The Service consists of two elements -

1.2 Featurenet Embark Centrex

Centrex Sites– Smaller sites will use lines based on BT 's existing Featureline product (See SIN 297[1][1]). This replicates a customer's PBX functionality and is provided using standard PSTN access technologies.

1.3 Featurenet Embark Digital

Digital Sites – Large PBX sites which replicates the functionality of a private network by connecting the PBXs into the Core Network using 2 Mbit/s DPNSS links.

For OnNet calls only, the PBX Business Group (PBG) built within the System X data can operate in a number of ways depending on the type of call; consequently the way the PBG conforms to NICC Document DPNSS[188][2][2] will vary. There is full OnNet call interworking (subject to NICC Document DPNSS[188] compliance) of DPNSS supplementary services between the Centrex sites and the Digital sites. The basic compliance with NICC Document DPNSS[188], plus compliance according to the 3 modes of operation, where appropriate, is given in the appendix to this SIN.

The way that the PBG operates for OffNet calls is described in NICC Document DPNSS[189][3][3].

2. Service Availability

The Centrex service is available to customers served by System X and AXE 10 Digital Local Exchanges; the Digital service is only available to customers served by System X Digital Local Exchanges. At the time of writing it is not available to customers served by UXD5 exchanges.

3. Service Outline

Customers will connect to the service either via Centrex access lines or Featureline Corporate Access lines, which are based on the existing Featureline product, Low Band Digital Access, details for both are contained in SIN 297, or via 2 Mbit/s DPNSS 1 digital access. The service consists of the following elements.

Featurenet Embark Centrex Site: A single customer site comprising of a number of analogue Centrex extensions directly connected the customer's local BT exchange and provided with OnNet dialling capability to other sites within the customer's defined network.

Virtual Private Network (VPN): A VPN refers to the virtual equivalent of a private circuit network and includes functionality normally provided by a hub PBX. The VPN is virtually connected to Centrex sites and physically connected to PBX sites via VPN DPNSS1 trunks. A VPN connected PBX may itself be a hub to other PBXs thereby providing indirect VPN access to otherwise unconnected sites. Digit insertion facilities can be provided as an administrative option on incoming OnNet calls presented at the DPNSS access to the service. This enables the number of address digits to be indicated by the addition of prefix digits in the format "111X" where X identifies the number of address digits (Site Location Code + Extension Number).

Sites are connected in Private Number Plans. There is full interworking (subject to NICC Document DPNSS[188] compliance) of DPNSS supplementary services between the Centrex sites and the PBX e.g. Ring back when free, Ring back when next used, CLI display etc.

OnNet Call: Call made to or received from a site on the Virtual Network to another site within the customer's group using the Private Number Plan.

OffNet Call: Call made to or received from a location outside of the customers private network using the Public Directory Number.

Digital Site: A customer site comprising of a site located PBX connected by DPNSS1 2 Mbit/s link to a PBX Business Group on a local System X Exchange. This group would be configured as part of a Private Number Plan with OnNet dialling capability to other sites within their defined network.

Customers will be able to make OnNet calls to other sites within their customer group that are also connected to the service. Access to the PSTN from 2 Mbit/s sites via the service will be available from a customer defined 1 or 2 digit code. PSTN access from Centrex sites will be a customer defined 1 or 2 digit code.

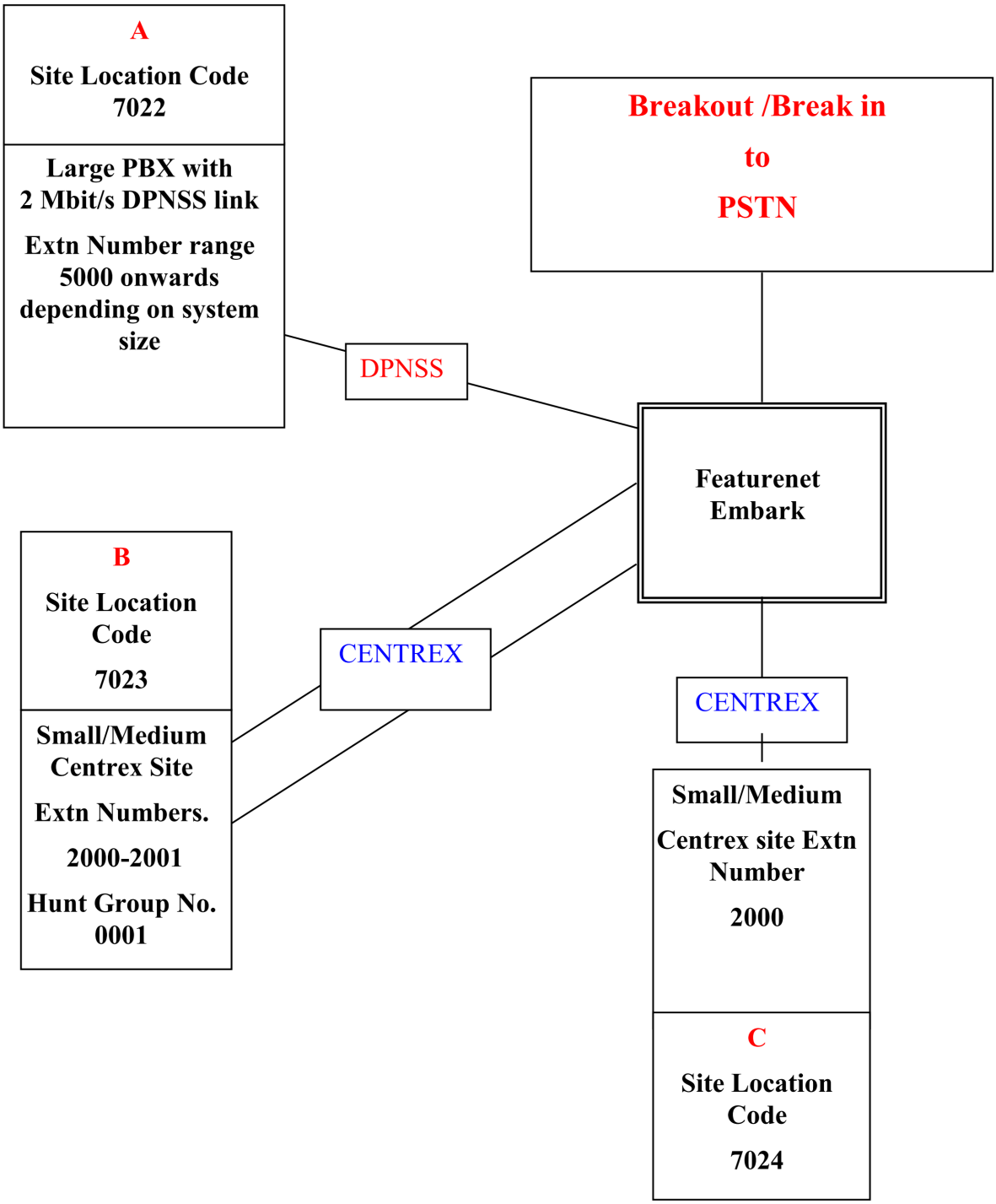
Private network numbers on Centrex sites are limited to 3-5 digit Site Location Code; Digital Site Location Codes are limited to 3 to 6 digits. Extension number ranges for both can be 2-6 digits in length.

4. Typical Customer Digital/Centrex Configuration

An OnNet call from site A to site B would dial the number 7023 2000 or 7023 2001 or if the lines are in a Hunt Group 0001.

An OnNet call from site C to Site A would dial 7022 5000 or 7022 5001.

An on site call on site B would dial 2000 or 2001.



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5. Tariffs

Tariffs for the Featurenet Embark service are published in the BT Price List.

6. Further information

Please contact either:

- Your company's BT Account Manager, or
- If you have questions relating to this document then please contact: sinet.helpdesk@bt.com

7. Abbreviations

DPNSS	Digital Private Network Signalling System
NICC	Network Interoperability Consultative Committee
PBG	PBX Business Group
PBX	Private Branch Exchange
PSTN	Public Switched Telephone Network
SIN	Suppliers' Information Note (BT Publication)
VPN	Virtual Private Network
TIG	Technical Interface Guide

8. References

[1]	SIN 297	Featureline Service Description
[2]	DPNSS[188]	NICC Document ND1301:2001/03 DPNSS[188] Digital Private Network Signalling System No 1 (DPNSS 1)
[3]	DPNSS[189]	NICC Document ND1302:2001/12 DPNSS[189] Interworking Between DPNSS 1 and Other Signalling Systems

SINs are available from https://www.bt.com/about/sinet

9. History

Issue 1	January 1999	First Issued.
Issue 2	July 1999	Digit insertion facility added to section 4. Editorial changes.
Issue 3	May 2000	Business Highway added, compliance statement for DPNSS against BTNR 188/189 expanded and general review changes.
Issue 3.1	June 2001	Editorial Changes.
Issue 3.2	July 2002	Editorial Changes.

Issue 3.3	October 2003	Editorial Changes. Clause on terminal approval requirements deleted.
Issue 3.4	November 2004	Featureline Corporate Access lines added to Service Outline clause.
Issue 3.5	February 2010	Product Overview updated to reflect that Embark is suitable for normal Voice Calls only.
Issue 3.6	October 2015	References to BTNRs 188 and 189 replaced with NICC Document references (DPNSS[188] and DPNSS[189]). Change SINet site references from http://www.sinet.bt.com to http://www.btplc.com/sinet/
Issue 3.7	September 2020	Change SINet site references from http://www.btplc.com/sinet/ to https://www.bt.com/about/sinet

Appendix. Featurenet Embark compliance with DPNSS[188] / [189]

Section	Basic Compliance DPNSS[188]	Transit (OnNet Call) DPNSS[188]	Terminating (Outgoing OffNet call) DPNSS[189]	Originating (Incoming OffNet Call) DPNSS[189]
0 - 6 - Simple Call	Compliant	Compliant	Compliant	Compliant
7 - Data Call	Compliant	Compliant	Compliant	Compliant
8 - Swap	Compliant	Compliant	Compliant	Compliant
9 - Call Back When Free	Compliant			
Request		Compliant	Compliant	Compliant
Free Notification		Compliant	Compliant	Compliant
Call Set Up		Compliant	Compliant	Compliant
Cancel Request		Compliant	Compliant	Compliant
10 - Executive Intrusion	Compliant			
Respond Correctly to IPL Request		Compliant	Compliant	Not Applicable
With Prior Validation		Compliant	Non Compliant	Non Compliant
Without Prior Validation		Compliant	Compliant	Compliant
Send IPL Request		Compliant	Compliant	Not Applicable
Apply Default IPL on SNU		Not Applicable	Compliant	Not Applicable
11 - Diversion	Compliant			
Registration & Validation		Compliant	Compliant	Compliant
Immediate		Compliant	Compliant	Compliant
On Busy		Compliant	Compliant	Compliant
On No Reply		Compliant	Compliant	Compliant
Follow Me		Compliant	Non Compliant	Non Compliant
Cancel		Compliant	Non Compliant	Non Compliant
Bypass of Call Diversion		Compliant	Compliant	Compliant
12 - Hold	Compliant			
Hold Request		Compliant	Compliant	Compliant
Reconnection Indication		Compliant	Compliant	Compliant
Holding Party Cleared Indication		Compliant	Compliant	Compliant
13 - Three Party	Compliant			
Enquiry Using Separate Path		Compliant	Compliant	Compliant
Shuttle		Not Applicable	Not Applicable	Compliant
Transfer		Compliant	Compliant	Compliant
Add-on		Compliant	Compliant	Compliant
Split After Add-on		Compliant	Compliant	Compliant
Clear Down After Add-on		Compliant	Compliant	Compliant

Appendix. Featurenet Embark compliance with DPNSS[188] /[189] (continued)

Section	Basic Compliance DPNSS[188]	Transit (OnNet Call) DPNSS[188]	Terminating (Outgoing OffNet call) DPNSS[189]	Originating (Incoming OffNet Call) DPNSS[189]
14 - Call Offer	Compliant			
Call Offer Request		Compliant	Compliant	Compliant
Accept By Clear		Compliant	Compliant	Compliant
Accept By Hold		Compliant	Compliant	Compliant
Reject		Compliant	Compliant	Compliant
Convert To Executive Intrusion		Compliant	Not Applicable	Not Applicable
15 - Non Specific Information	Transit Only	Compliant	Non Compliant	Non Compliant
16 - Service Independent Strings	Compliant			
DASS2 Service Indicator Code		Compliant	Compliant	Compliant
Password		Compliant	Compliant	Compliant
Trunk Identity		Compliant	Compliant	Compliant
VPN Initiated Clear		Compliant	Compliant	Compliant
VPN Nodal Identity		Compliant	Compliant	Compliant
All Others		Compliant	Non Compliant	Non Compliant
17 - Call Waiting	Compliant			
Call Waiting Indication		Compliant	Compliant	Compliant
Accept By Clearing		Compliant	Compliant	Compliant
Accept By Hold		Compliant	Compliant	Compliant
Reject		Compliant	Compliant	Compliant
Convert To Executive Intrusion		Compliant	Non Compliant	Non Compliant
18 - Bearer Service Selection	Compliant			
Able to select path based on Bearer Service requirements (BSS-M) Mandatory		Compliant	Not Applicable	Compliant
Able to select path based on Bearer Service requirements (BSS-P) Preferred		Compliant	Not Applicable	Compliant
Able to select path based on Bearer Service requirements (BSS-N) Notified		Compliant	Not Applicable	Compliant
19 - Route Optimisation	Transit Only			
Route Optimisation Request		Compliant	Non Compliant	Non Compliant
Call Set-up via separate channel		Compliant	Non Compliant	Non Compliant
20 - Extension Status	Transit Only	Compliant	Non Compliant	Non Compliant

Appendix. Featurenet Embark compliance with DPNSS[188] /[189] (continued)

Section	Basic Compliance DPNSS[188]	Transit (OnNet Call) DPNSS[188]	Terminating (Outgoing OffNet call) DPNSS[189]	Originating (Incoming OffNet Call) DPNSS[189]
21 - Controlled Diversion	Transit Only			
Immediate		Compliant	Non Compliant	Non Compliant
Busy		Compliant	Non Compliant	Non Compliant
On No Reply		Compliant	Non Compliant	Non Compliant
22 - Redirection	Compliant			
Via Separate Channel		Compliant	Compliant	Compliant
23 - Series Call	Transit Only			
Request		Compliant	Non Compliant	Non Compliant
Cancel		Compliant	Non Compliant	Non Compliant
Set Up		Compliant	Non Compliant	Non Compliant
24 - Three Party Take-over	Transit Only			
Request		Compliant	Non Compliant	Non Compliant
Validation		Compliant	Non Compliant	Non Compliant
25 - Night Service	Compliant			
Notification		Compliant	Non Compliant	Non Compliant
Different Channel		Compliant	Compliant	Compliant
Re-divert		Compliant	Non Compliant	Non Compliant
26 - Centralised Operator	Compliant			
3 Party Service (Sec 13)		Compliant	Compliant	Compliant
Call Offer (Sec 14)		Compliant	Compliant	Compliant
Redirection (Sec 22)		Compliant	Compliant	Compliant
Executive Intrusion (Sec 10)		Compliant	Compliant	Compliant
Route Optimisation (Sec 19)		Compliant	Non Compliant	Non Compliant
Night Service (Sec 25)		Compliant	Compliant	Compliant
Extension Status (Sec 20)		Compliant	Non Compliant	Non Compliant
Controlled Diversion (Sec 21)		Compliant	Non Compliant	Non Compliant
Series Call (Sec 23)		Compliant	Non Compliant	Non Compliant
3 Party Takeover (Sec 24)		Compliant	Non Compliant	Non Compliant
Hold (Sec 12)		Compliant	Compliant	Compliant

Appendix. Featurenet Embark compliance with DPNSS[188] /[189] (continued)

Section	Basic Compliance DPNSS[188]	Transit (OnNet Call) DPNSS[188]	Terminating (Outgoing OffNet call) DPNSS[189]	Originating (Incoming OffNet Call) DPNSS[189]
27 - Traffic Channel Maintenance	Non Compliant			
Back Busy Traffic Channel		Not Applicable	Non Compliant	Non Compliant
Loop Back on Same Channel		Not Applicable	Non Compliant	Non Compliant
Loop Back on Different Channel		Not Applicable	Non Compliant	Non Compliant
Cancellation of Loop Back		Not Applicable	Non Compliant	Non Compliant
Reject call on Back-busied Channel		Not Applicable	Non Compliant	Non Compliant
Status Request		Not Applicable	Non Compliant	Non Compliant
28 - Remote Alarm Reporting	Transit Only			
Request		Compliant	Non Compliant	Non Compliant
Report		Compliant	Non Compliant	Non Compliant
29 - Add -On Conference	Transit Only			
Enquiry		Compliant	Non Compliant	Non Compliant
Request		Compliant	Non Compliant	Non Compliant
Cleardown		Compliant	Non Compliant	Non Compliant
Split		Compliant	Non Compliant	Non Compliant
Obtain Conference Details		Compliant	Non Compliant	Non Compliant
30 - Time Synchronisation	Transit Only			
Time Notification Man Machine Interface Initiated		Compliant	Non Compliant	Non Compliant
Time Notification Console Initiated		Compliant	Non Compliant	Non Compliant
Time Notification at Configurable Time of Day		Compliant	Non Compliant	Non Compliant
Time Request		Compliant	Non Compliant	Non Compliant
31 - Call Back When Next Used	Compliant	Compliant	Compliant	Compliant
32 - Do Not Disturb	Compliant			
Encountered		Compliant	Compliant	Compliant
Over-ride		Compliant	Compliant	Compliant

Appendix. Featurenet Embark compliance with [188] /[189] (continued)

Section	Basic Compliance DPNSS[188]	Transit (OnNet Call) DPNSS[188]	Terminating (Outgoing OffNet call) DPNSS[189]	Originating (Incoming OffNet Call) DPNSS[189]
33 - Remote Diversion	Compliant			
Set Extension Diversion – Immediate		Compliant	Non Compliant	Non Compliant
Set Extension Diversion – On Busy		Compliant	Non Compliant	Non Compliant
Set Extension Diversion – On No Reply		Compliant	Non Compliant	Non Compliant
Cancel Extension Diversion – Immediate		Compliant	Non Compliant	Non Compliant
Cancel All Extensions Diversion – Immediate		Compliant	Non Compliant	Non Compliant
Cancel Extension Diversion – On Busy		Compliant	Non Compliant	Non Compliant
Cancel All Extensions Diversion – On Busy		Compliant	Non Compliant	Non Compliant
Cancel Extension Diversion – On No Reply		Compliant	Non Compliant	Non Compliant
Cancel All Extensions Diversion - On No Reply		Compliant	Non Compliant	Non Compliant
Cancel All Diversions on an Extension		Compliant	Non Compliant	Non Compliant
Cancel All Diversion on All Extensions		Compliant	Non Compliant	Non Compliant
34 - Remote Do Not Disturb	Transit Only	Compliant	Non Compliant	Non Compliant
35 - Priority Breakdown	Non Compliant			
Required by Term Node		Non Compliant	Non Compliant	Non Compliant
Required by Originating Node		Non Compliant	Non Compliant	Non Compliant
At Busy extension		Non Compliant	Non Compliant	Non Compliant
On Encountering Congestion		Non Compliant	Non Compliant	Non Compliant
36 - Call Back Messaging	Transit Only			
Accept Call Back Message Request and Cancel		Compliant	Non Compliant	Non Compliant
Send Call Back Message Request and Cancel		Compliant	Non Compliant	Non Compliant
37 - Loop Avoidance	Non Compliant			
Able to Insert Loop Avoidance String		Non Compliant	Not Applicable	Non Compliant
Able to Decrement Transit Count		Non Compliant	Not Applicable	Not Applicable
Able to Reject Call With Transit Count of Zero		Non Compliant	Not Applicable	Not Applicable
38 - Forced Release	Transit Only	Compliant	Non Compliant	Non Compliant
39 - Text Message	Transit Only	Compliant	Non Compliant	Non Compliant

Appendix. Featurenet Embark compliance with DPNSS[188] /[189] (continued)

Section	Basic Compliance DPNSS[188]	Transit (OnNet Call) DPNSS[188]	Terminating (Outgoing OffNet call) DPNSS[189]	Originating (Incoming OffNet Call) DPNSS[189]
40 - Charge Reporting	Transit Only			
Respond to Request For Account Code		Compliant	Non Compliant	Non Compliant
Request Call Cost		Compliant	Non Compliant	Non Compliant
Respond to Request for Call Cost		Compliant	Non Compliant	Non Compliant
Send Unsolicited Call Cost Details		Compliant	Non Compliant	Non Compliant
Send Charge rate (Time/unit Based)		Compliant	Non Compliant	Non Compliant
Request Account Code Details		Compliant	Non Compliant	Non Compliant
Charging Active Indication		Compliant	Non Compliant	Non Compliant
41 - Network Address Extension	Transit Only	Compliant	Non Compliant	Non Compliant
42 - Call Park	Transit Only			
Accept / Request		Compliant	Non Compliant	Non Compliant
Ring Out Request		Compliant	Non Compliant	Non Compliant
Redirection on No Answer		Compliant	Non Compliant	Non Compliant
43 - Call Distribution	Transit Only			
Distributed Call Forward		Compliant	Non Compliant	Non Compliant
Investigation of Call Loading		Compliant	Non Compliant	Non Compliant
Call Queuing		Compliant	Non Compliant	Non Compliant
Accept Distributed Calls		Compliant	Non Compliant	Non Compliant
Extension / Operator Calls Can Be Distributed		Compliant	Non Compliant	Non Compliant
44 - Route Capacity Control	Compliant			
VPN able to invoke over-Ride without an indication from PBX that it is required		Compliant	Compliant	Compliant
VPN able to indicate to PBX that over-ride is available		Compliant	Compliant	Compliant
VPN able to act upon indication from PBX that over-ride is required		Non Compliant	Non Compliant	Non Compliant
45 - Wait On Busy	Compliant			
Accept request		Compliant	Compliant	Compliant
Accept call when the existing call clears		Compliant	Compliant	Compliant

Section	Basic Compliance DPNSS[188]	Transit (OnNet Call) DPNSS[188]	Terminating (Outgoing OffNet call) DPNSS[189]	Originating (Incoming OffNet Call) DPNSS[189]
46 – Call Pick-up	Compliant			
Group Pick-up of ringing call		Compliant	Compliant	Compliant
Group Pick-up of waiting call		Compliant	Non Compliant	Non Compliant
Directed Pick-up of ringing call		Compliant	Compliant	Compliant
Directed Pick-up of waiting call		Compliant	Non Compliant	Non Compliant
Directed Pick-up of held call		Compliant	Non Compliant	Non Compliant
Directed Pick-up of parked call		Compliant	Non Compliant	Non Compliant
Night Bell / any extension Pick-up		Compliant	Compliant	Compliant
47 - Travelling Class of Service	Transit Only			
Originate TCS request		Compliant	Non Compliant	Non Compliant
Respond to TCS request		Compliant	Non Compliant	Non Compliant
48 - Number Presentation Restriction	Transit Only			
Able to send a Number Presentation Restriction (NPR-A) string		Compliant	Non Compliant	Non Compliant
Able to act upon a Number Presentation Restriction (NPR-A) string		Compliant	Non Compliant	Non Compliant
Able to send a Number Presentation Restriction (NPR-B) string		Compliant	Non Compliant	Non Compliant
Able to act upon a Number Presentation Restriction (NPR-B) string		Compliant	Non Compliant	Non Compliant
Able to send a Number Presentation Restriction (NPR-O) string		Compliant	Non Compliant	Non Compliant
Able to act upon a Number Presentation Restriction (NPR-O) string		Compliant	Non Compliant	Non Compliant
Able to support restriction domains		Compliant	Non Compliant	Non Compliant

-END-